market stakeholders such as Fannie Mae and Freddie Mac, could promote underwriting flexibility for mortgages on energy-efficient homes.

Introduction

Over the last few decades, even while houses are becoming more energy efficient, energy costs per household and the total energy used in the residential sector are rising. Many people are living in smaller households but in larger houses, with increasing reliance on space conditioning and appliances, which results in higher energy consumption per household (Kaza 2010). In turn, higher energy costs leave households with less income to meet other needs, such as housing-related expenses. If these trends are going to change anytime soon, greater adoption of energy efficiency measures is needed. An important way to encourage such adoption is for mortgage pricing or underwriting flexibility to reflect the savings that come as a result of energy efficiency. Keoleian et al. (2000) argue that while an energy-efficient house recoups any additional premium in sales prices, the mortgage underwriting process does not account for these savings, contributing to lower adoption rates of energy-efficient measures. In this study, we focus on other reasons why the mortgage underwriting process should account for energy efficiency.

In their study of California homes, Kok and Kahn (2012) find that there is an average premium of $34, 800 (~9%) for green-rated homes. Green-rated homes, such as Leadership in Energy and Environmental Design (LEED) or GreenPoint, conserve energy and materials both in the operation and the construction phases. Presumably, these premiums are paid back through the operational savings over a lifetime. However, as Jaffe and Stavins (1994) argue, the non-rapid adoption of energy efficiency measures indicates that the present valuation of savings are less important to consumers than other market and non-market barriers. These include transaction costs, uncertainty and cost of the initial investment, and information asymmetries, all of which are still poorly understood.